

# Firearms injury prevention and gun control in Canada

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## Abstract • Résumé

Firearms cause more than three deaths daily in Canada. The rate of mortality from gunshot wounds varies among provinces and territories, ranging from 5.7 to 21.2 per 100 000 people. Most deaths from gunshot wounds occur in the home, with more occurring in rural areas than in cities, and are inflicted with legally acquired hunting guns. The cost of the consequences of the improper use of firearms in Canada has been estimated at \$6.6 billion per year. There is a correlation between access to guns and risk of death. The mere presence of a firearm in a home increases the risk of suicide, homicide and "accidental" death. It is estimated that, in one third of all households in Quebec that have a firearm, it is not safely, or even legally, stored. To prevent deaths and injuries from firearms, education is not enough. Environmental, technological and legislative measures are also needed. In this spirit, the Quebec Public Health Network has taken a position supporting better controls on access to firearms, including the licensing and registration of all firearms and their ownership, to prevent deaths and injuries. The network believes that licensing and registration will reduce the problems related to firearms by making owners accountable for the use of their firearms, improving public safety, helping to control the import and circulation of firearms, reinforcing research and education, and reducing access to firearms in homes. Licensing and registration do not interfere with legitimate firearm use, their cost is acceptable in light of the advantages they provide, and they are desired by most Canadians.

Au Canada, les armes à feu sont responsables d'au moins trois décès par jour. Le taux de mortalité par balle varie selon les provinces ou territoires canadiens de 5,7 à 21,1 par 100 000 habitants. La grande majorité de ces décès surviennent à domicile, il s'en produit davantage dans les régions rurales que dans les régions urbaines, et les armes utilisées sont des armes de chasse acquises légalement. Au Canada, les coûts économiques annuels liés à une mauvaise utilisation des armes à feu sont estimés à près de 6,6 milliards de dollars. Il existe une corrélation entre l'accès aux armes à feu et le risque de décès. La seule présence d'une arme à feu à la maison augmente le risque de suicide, d'homicide et d'«accident». On estime que chez plus d'un tiers des ménages au Québec qui possèdent au moins une arme à feu, elle est entreposée de façon inadéquate, voire illégale. Pour prévenir les décès et les blessures par arme à feu, les interventions éducatives ne suffisent pas. À ces dernières, il faut ajouter des interventions agissant sur l'amélioration de l'environnement, de la technologie et de la législation. C'est dans cette perspective que le réseau de la santé publique du Québec a pris position pour un meilleur contrôle de l'accessibilité des armes à feu, et en particulier pour des permis de possession et l'enregistrement obligatoire intégral des détenteurs et de leurs armes, afin de prévenir les décès et les blessures. Le réseau estime que cette mesure contribuera à réduire les problèmes associés aux armes à feu en rendant les propriétaires imputables de l'utilisation faite de leurs armes, en améliorant la sécurité publique, en aidant à contrôler l'importation et la circulation des armes à feu, en renforçant les mesures de recherche et d'éducation, et en réduisant l'accessibilité des armes dans les ménages. Des permis de possession et l'enregistrement ne briment pas l'utilisation légitime des armes à feu, leur coût est acceptable à la lueur des avantages qui en découlent, et une forte majorité des Canadiens les souhaite.

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*All scientific work is incomplete — whether it be observational or experimental. All scientific work is liable to be upset or modified by advancing knowledge. That does not confer upon us a freedom to ignore the knowledge we already have, or to postpone the action that it appears to demand at a given time.*

— Austin Bradford Hill, 1965

Firearms cause at least three deaths daily and more than 1400 deaths annually in Canada. In the province of Quebec alone, there are 420 deaths from firearms annually, of which 70% are suicides, 20% are homicides and 10% are of undetermined intention, including a dozen “accidents” every year.<sup>1</sup> (The term “accident” is inappropriately and unscientifically used for such events; it implies an act of God that is unpredictable and therefore unpreventable.) By comparison, in the same period in Quebec, there were 400 deaths from AIDS, 400 from “accidental” falls, 900 from motor vehicle collisions, 100 from drowning, 80 from “accidental” intoxication and 15 from meningococcal meningitis.

The annual cost of the consequences of the improper use of firearms has been estimated at \$1.7 billion in Quebec alone and \$6.6 billion in Canada (both figures in 1993 dollars).<sup>2</sup>

Most deaths from gunshot wounds occur in the home, with more occurring in rural areas than in cities, and are inflicted with legally acquired hunting weapons.<sup>3</sup> The firearms most often kept in homes in Quebec are .22-calibre rifles and .410- or 12-gauge shotguns. An estimated 25% of households in Quebec have at least one firearm, and in more than 33% of these households the guns are stored improperly.<sup>4</sup> Thus, in 8% of all houses in Quebec there is a firearm that is not stored in accordance with regulations in effect in Canada since Jan. 1, 1993. This constitutes a threat to the safety of members of the household as well as to neighbours and friends.

The problem is national. From 1989 to 1992, the mean rate of mortality from gunshot wounds was 5.8 per 100 000 people in Quebec, which is comparable to the rates observed in Manitoba (5.7 per 100 000), Saskatchewan (6.1 per 100 000), Alberta (6.8 per 100 000), Nova Scotia (6.7 per 100 000) and New Brunswick (7.2 per 100 000).<sup>5</sup> However, it is significantly lower than the rates in the Yukon Territory (13.1 per 100 000) and the Northwest Territories (21.2 per 100 000).<sup>5</sup> Among northern Quebec's Cree and Inuit communities, the mortality rates are higher than in the southern part of the province.<sup>6</sup>

Armed robberies also have a whole range of consequences for the health of victims (those at the scene of such a robbery). According to some studies, 25% of victims of armed bank robberies are still in treatment 30 months after the event, and nearly half of them still have anxiety symptoms, sleep disturbances or psychosomatic

problems.<sup>7</sup> There were 12 850 robberies in Quebec in 1992, 4329 of which involved firearms.<sup>5</sup>

Of all of the methods used to attempt suicide, guns are the most lethal. The mortality rate in suicide attempts involving firearms is 92%, whereas in attempts involving drugs it is 30%.<sup>8</sup> In the United States, where women are being urged to arm themselves, supposedly for self-protection, women are increasingly trying to take their lives with a gun,<sup>9,10</sup> and succeeding more often with a gun than with any other instrument. In Canada, women choose less violent means to attempt suicide; as a result, their chances of surviving and receiving treatment, if necessary, are increased. Most homicides involving firearms occur during a family crisis, and the murderer and victim are known to each other; in a home where a gun is within reach, an attack is 12 times more likely to be lethal than an attack with a knife<sup>11,12</sup> or any other weapon.

## Access to firearms

There is a correlation between access to guns and risk of death.<sup>13</sup> The mere presence of a firearm in a home increases the risk of suicide fivefold,<sup>14</sup> of homicide threefold<sup>15</sup> and of “accidental” shootings as well<sup>16</sup> over the risk in a home where there are no guns. A gun in the home is associated much more often with the shooting of a household member than of an assailant.<sup>17</sup>

Factors such as a social and legislative environment that allows access to guns exert a significant influence on the frequency and distribution of, and the increase in, deaths and injuries due to firearms.<sup>18-22</sup>

## Prevention

To prevent an illness or injury, public health experts consider preventive action to control the agent and the vehicle and to protect the host. In the case of injury due to gunshot wounds, the agent is the force deployed by firing a gun, the vehicle is the gun or ammunition and the human host is the victim. These agents, vehicles and hosts interact in a particular physical or sociocultural environment. The nature of this environment can independently affect the probability of an event or its seriousness. For example, it can play a role in determining whether a suicide attempt, an assault or an “accident” results in a treatable wound or a fatal injury.<sup>13</sup>

Whether a shooting is an impulsive suicide, a murder in the heat of anger, an “accidental” discharge of a firearm due to negligence, a result of a defect in the safety or design of the weapon or a shooting by a person under the influence of alcohol or drugs, it always involves access to a firearm by a person who can discharge it. This access constitutes the universal link — the one against which we can take action — in the chain of events leading to an injury from a firearm.

## Preferred strategies

In public health, strategies consisting of several interventions used concurrently are preferred. These interventions may involve education to change human behaviour, reinforcement of the social and legislative environment, and engineering to improve the technological and physical environment.

The effectiveness of control measures is inversely related to the effort required to implement them.<sup>23</sup> Thus, it is not effective or economical to focus efforts on educating citizens about the safe handling and storage of firearms or to act solely to change human behaviour or intentions through detection of suicidal or violent tendencies, intervention in the home, and other such measures. These interventions are often costly and do not always reduce injuries and produce lasting behavioural changes. Studies of courses in the safe handling of firearms offered in the United States suggest that training to encourage safe gun storage alone is not always effective.<sup>24</sup>

Therefore, strategies that reinforce behavioural and technological changes through legislation or regulations must not be neglected. Such strategies have included lowering the speed limits on highways to prevent deaths and injuries, licensing cars to facilitate police surveillance, requiring the use of child-resistant closures on packaging to prevent poisoning in children and requiring secure locking devices on guns not in use to prevent gunshot wounds.

Among the measures contained in the Act Respecting Firearms and Other Weapons<sup>25</sup> (the Firearms Act), given royal assent on Dec. 5, 1995, the collection of information about gun owners and the weapons they possess is essential to other complementary and simultaneous environmental, technological, legislative and educational measures, including research and evaluation. Accordingly, the Canadian Public Health Association (CPHA) and the Quebec Public Health Network support effective and economical measures to control access to firearms, in order to prevent deaths and injuries without inhibiting the use of firearms for legitimate purposes. In particular, the CPHA and the network support the licensing of owners and the registration of firearms.

## The new law (Bill C-68)

Under the Firearms Act, all owners of firearms in Canada must obtain a licence by Jan. 1, 2001. The Firearms Acquisition Certificate used previously will act as a possession licence until the licensing system is up and running. A licence will be needed to purchase ammunition as well as guns. The licence must be renewed every 5 years. This will ensure that information in the licensing system is kept up to date. It will also ensure that the owner remains a suitable gun owner and that safety criteria are still satisfied.

All firearms in Canada must be registered by Jan. 1, 2003. For guns already in circulation, owners may register all of their guns at one time. When a gun is transferred or acquired it will be registered in the name of its owner. Therefore, its ownership will be registered from the time it is imported into the country through to its last owner.

In practice, for those who now possess and use firearms legitimately, this measure will not interfere with the legal use of firearms, but it will distinguish legal owners from illegal ones.

Licensing and registration will be inexpensive. As of Aug. 9, 1996, the federal justice minister proposed that a possession-only (nonacquisition) licence will cost \$10 during the first year of implementation, increasing over the next few years to \$60 in the last year of the phase-in period. Owners can register an unlimited number of nonrestricted guns at the same time for \$10 in the first year of implementation, increasing to \$18 over the next few years. Registration is for life, unless the gun is transferred or sold, in which case the new owner will pay to reregister the possession of the gun. These fees are minuscule in comparison with the administrative fees for registering a vehicle in Quebec each year.

## How will the new law reduce access to guns?

It is currently impossible to determine who owns guns, how many or what kinds of guns people possess, what they do with them or what address the guns are stored at, let alone how they are stored. Without information, there is no protection.

Licensing of owners and registration of firearms, from the time that guns are imported into Canada to their last owner, will assist in effectively controlling access to firearms in five ways.

First, providing information about who owns what firearms will improve control over who has access to what firearms. By extending the licensing requirement to all gun owners, not just those who wish to acquire guns, we will reduce the likelihood that people at risk have access to firearms. The law will allow firearms to be kept from people who have a history of violent or unstable behaviour. Licensing and registration will assist police in adopting proper preventive measures, such as temporarily removing all firearms from the premises during an episode of attempted suicide or family violence and protecting themselves before intervening in a crisis in a home. Suicide and family violence involving firearms occur mainly among people who are not criminals. Most such incidents involve lawfully acquired firearms, which the owners would have had no reason not to register when they purchased them. In fact, even without registration, an estimated 13 000 prohibition orders are issued annually in Canada to remove guns from people who are a danger to society or themselves.<sup>26</sup>

Without licensing of ownership, the police have had to be content with searching the premises for firearms or hoping that people would hand over their guns voluntarily.

Second, licensing and registration will make owners accountable for the use of their firearms and improve compliance with safe-storage regulations. These regulations, introduced in 1993 under the previous law, should reduce immediate access to guns in homes. Safe storage may reduce "accidents" or the impulsive use of firearms to attempt suicide or homicide.

Yet research shows that half of gun owners in Quebec, for example, are unaware of the storage rules that have been in effect since Jan. 1, 1993, and one third of owners do not follow these rules when storing guns in their home.<sup>4</sup> Under the new law, owners must obtain a firearms licence, and the licensing procedure is a good opportunity to inform owners of the safety rules and the risks to their family's safety.

With universal licensing and registration, it will be possible to give gun owners an incentive to comply with safe-storage requirements, making guns less accessible for impulsive misuse.

Third, the law helps to control the import and circulation of firearms. There can be no control without information. If the police cannot distinguish lawfully owned firearms (which would be registered) from unlawfully owned weapons, they cannot control gun trafficking and smuggling. Before the new legislation, guns were not necessarily registered when they were imported into Canada; therefore, for example, legitimate dealers could import guns legally and then sell them illegally.<sup>27</sup> Moreover, a Firearms Acquisition Certificate allowed a person to purchase an unlimited number of firearms; without registration, there was little way of holding owners accountable.

By placing explicit legal responsibility on successive owners, applying rules to sales between third parties and encouraging vendors to ensure that ownership is legally transferred to purchasers, the new law increases accountability. Once again, this reduces access to firearms by those who are at risk of misusing them.

Fourth, licensing and registration reinforce research and education campaigns. The registry will permit far better research and education. Absence of universal registration of guns and ownership prevented the measurement of reliable denominators for research (e.g., for case-control studies) and for proper evaluation of the effectiveness of preventive and control programs. With the new system, it will be possible to target safety-education campaigns to encourage owners to comply with safe-storage regulations, which reduce immediate access to guns in homes. Education campaigns are particularly necessary to improve compliance with safe storage.

Fifth, by increasing accountability and responsibility, the new legislation may reduce overall access to fire-

arms. In practice, owners may decide to get rid of use-less or unused firearms. Half of gun owners in Canada and Quebec, on average, have not used their guns during the past 12 months.<sup>28</sup>

## The new law is advantageous in cost-benefit terms

The federal government has estimated the cost of the universal licensing and registration system at \$85 million, with the system gradually becoming self-financing. The cost of injuries due to firearms in Canada is far greater than the cost of the registration system: the annual direct cost to the health care system is \$60 million and the total cost is estimated at \$6.6 billion.<sup>2</sup>

## Conclusion

In Canada, universal registration of guns and licensing of their ownership is long overdue. Licensing and registration have been instituted for many years in most European countries<sup>29,30</sup> (including Belgium, Finland, Germany, Great Britain, Ireland, the Netherlands, Portugal, Spain and Switzerland) and have recently been adopted in France.

Finally, according to opinion surveys conducted in Canada since 1990, the public, particularly in Quebec,<sup>31</sup> favours greater gun control.<sup>32</sup> In the other provinces, support for registration is overwhelming. Even in Alberta, where there has been political criticism of gun-control measures, a scientific survey showed that 83% of people are in favour of registration<sup>33</sup> and a controversial survey commissioned by the Alberta justice minister showed that 64% of people favour registration.<sup>34</sup>

Firearms-control measures are designed first and foremost to preserve our quality of life in this country; at the same time, they enhance the feeling of safety desired by most people in our society. These controls will not inhibit legitimate firearm use for hunting and competitive shooting; on the contrary, they should help us avoid the gun-related violence that prevails in our neighbour to the south.

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